

Hector's World® - Lesson Plan

Interactive Episode – Computer Security: “Oops”

Ages 5-7

OBJECTIVES:

1. Children begin to understand that passwords can help protect computer files and information.
2. Children begin to understand that a file called a virus can make a computer stop working but parents and caregivers can help prevent this.

SUGGESTED LESSON PROGRESSION:

Teacher's Hints

The episode contains two “Pause Points” ⓘ to provide an opportunity for classroom discussion. Although this lesson may stand alone, it is preferable that learners have been introduced to the Hector's World characters. There are two episode images you can use to aid student understanding and two activities to re-enforce the lesson concepts. They should be printed and copied/prepared before the lesson. They are included at the end of this plan along with additional extension activities and learning links.

Connecting learners

Introduce the animation and allow the learners to share their previous knowledge about Hector and his friends. “Today we are going to watch another story about Hector and his friends in Silicon Deep”.

Explain for those not familiar with the resource that Hector and his friends use lots of technology in their world under the sea. They like to learn about helping each other and using the technology safely. This episode is about a computer virus.


Ask: Does anyone know what a computer virus is?” Acquaint learners with the term through a short discussion. Some students at this age may know the terms ‘virus’ or ‘pop-up window’. They may have a basic understanding that a virus can make a computer ‘sick’ or that a computer virus can cause a computer to stop working properly.

Put new or unfamiliar vocabulary arising from discussion on the board.

Explain: “In this episode, Sprat's computer gets a virus just as his friends are about to watch something very special on it. Sprat will need some help to get the problem sorted out.”

Activating learners

Show students the picture of the ‘pop- up window’ from the episode (attached). Ask students to look for this “pop-up window” scene and watch closely what happens to the computer.

Start the animation. A pause point symbol  will appear in the episode in the lower right corner 3 seconds before the point to stop the video.

Pause Point 1: At the first pause point, stop the animation and allow the learners time to consider Sprat's problem and share ideas about possible solutions.

Ask learners the following questions:

- What do you think has happened to Sprat's computer?
- What did you see just before the computer broke?
- All Sprat's friends have come to watch something special on his computer. Now the computer has stopped working. How do you think Sprat feels?
Use **Image 2: Sprat "How does Sprat Feel?"** attached.

Create a list of words on the board (or large paper) that children use to describe Sprat's feelings. This will be used later in the lesson. The list is likely to include: *unhappy, scared, worried, afraid, sorry, sad, upset, tricked, bad*. Ask students if they can make a face that shows how Sprat felt.

- What could Sprat do to solve his problem?
- Who can Sprat turn to for help?

Additional questions for discussion:

These will explore Sprat's need to find a resolution quickly and how this might make him feel.

- What could happen if Sprat tries to fix the computer himself?
- What could Sprat say to his friends who are here to watch the concert?

Depending on their age, teachers may want to explore students' understanding of computer passwords. (see Password Activity attached)

- What is a password?
- What did Tama imagine when Sprat said his dad uses a **strong** password?

Continue the animation

Pause Point 2: At the second pause point, stop the animation and allow the learners time to consider the question and share ideas.

Ask:

- How is Sprat feeling now? (*the teacher can refer students back to the original list*)
- What could Ranjeet say to make Sprat feel better?
Using the list created at Pause Point 1, ask students what Ranjeet could say if Sprat is feeling: unhappy, scared, worried, afraid, sorry, sad, upset, tricked, bad

Conclusion of the animation: Immediately following the viewing, discuss what happened in the animation focussing on Sprat's advice at the end and Sprat's strategy to solve the problem. New vocabulary and the list of words describing how Sprat felt will aid the discussion. Key points in the episode are:

- Sprat's Dad used his strong password to log onto the computer.
- Sprat clicked on a pop-up window.
- A virus caused Sprat's computer to stop working.
- Sprat sought help and did not try to fix the computer himself.
- Sprat's friends helped him to feel better.

Demonstration of learning

Student Activity 1: What happened Next?

Print and **Copy** several sets of story pictures (depending on class size). Each picture highlights a key point in the story. **Organise** students into groups of two or three and give each group one picture. Ask students to look closely and think about what is happening in their picture. Several pairs can be called on to describe their picture for the class. The teacher can encourage students to describe how the characters might be feeling in their picture.

Tell students they will now work as a team to arrange all the pictures in the correct order to re-tell the story.

This can be done in several ways using an adhesive on the wall. Placing images temporarily on the wall will give students an opportunity to reflect on the key messages in the story over several days. Alternatively, groups can arrange the pictures in a line on the floor or student pairs could hold up their pictures and line up in the correct order.

*The teacher can assist by placing the first picture for group. The teacher can prompt groups to consider “**What happened next.....**”*

This activity helps students understand the cause / effect relationship of the computer virus and the computer breakdown.

Replay the animation when students have finished so they can check their placement of the story images.

Additional Activity: strong passwords:

The lesson includes an activity to help students build and remember a strong password. Teachers may want to use this activity in the classroom after viewing the animation or ask students to complete the activity at home with parents / caregivers to promote these concepts at home.

Extension Activities for All Age Groups

Here are some suggested activities that can be used to further extend children's understanding of computer security and passwords. We have included all age groups to suggest a range of activities, which can be modified to suit your class.

Some of these activities use other Hector's World resources that are available on Information Island or Silicon Deep at www.hectorsworld.com. Or in

Using passwords to protect valuable information

'Make a strong password' activity in Silicon Deep Workshop

http://www.hectorsworld.com/island/main/workshop_interior_01/index.html

This activity helps children understand, create and remember a strong computer password. The activity can stand alone or be integrated into this lesson plan.

Teacher's Notes

A child's first introduction to a computer password may be when they begin using a school network or a shared classroom computer. This activity introduces the concept of a strong password. The activity encourages students to draw a picture that helps them remember their password.

In some school environments young children will share a class password to access a class blog or a shared area of a computer network. Teachers can encourage the use of a strong password in this situation and reinforce the concept that passwords protect files and information that are important to us as a group.

Introduce the activity by determining students current knowledge about passwords and their purpose.

- Who knows what a password is?
- Who uses passwords?
- Why do they use passwords?
- Why do people keep their passwords secret?
- What happens when someone guesses a password?
- What is a weak password/ what is a strong password?

Often young children will consider using the name of a favourite pet, a birthday or a nickname as a password. It is important to help children understand this information is often known by friends. They may also consider an easy to remember number sequence (12345) or even the word 'password'. It is important to help children understand the difference between a weak password and a strong password. Some examples could be displayed on the board.

Explain that today students will make up a strong password. A strong password is made of letters, numbers and symbols combined in a way that no one can guess.

Explain that writing the password down means that someone may see it and it will no longer be a secret password. Drawing a picture can be a way to help remember a password and still keep it secret.

Distribute the activity sheet to students. It is available in the Silicon Deep workshop. The activity sheet encourages them to choose words, numbers or symbols from each column and combine them to make a strong password. Students can circle their choices but should try to keep them secret. Students then draw a picture that will help them remember their password and discard the top portion.

Junior classes

Students may know about: Secret Santa, secret garden, secret code, keeping a secret about a surprise. They may know of storybooks or movies where characters keep a secret. These examples can be integrated into the discussion.

Discussion points could include:

Is it hard to keep a secret? Why do some people have secrets? How would you feel if someone finds out your secret password? How do we feel if we lose a picture or drawing or a book that was special to us?

NOTE: For young children you may want to address the issue of 'good secrets vs bad secrets'. It is important that children understand there are some secrets they must tell a trusted adult. A "bad secret" may make them feel uncomfortable or frightened, and it is important to turn to an adult for help. A good secret may make them feel good or be a way to surprise someone and make them happy.

Senior classes

Students may have computer passwords at school or home. The class may share a log-on to class materials or website. Their examples can be integrated into the discussion.

Discussion point could include:

Who uses passwords? Why do some websites use passwords? What could happen if someone knows your computer password? How does a password "protect" computer files? Why do we want to protect some things on the computer?

Invite an expert

Invite the school computer technician or a computer technician from the local community to speak to the students about the importance of computer security and what they do to keep the school computers safe. Students might prepare questions in advance.

Drama activity

Students in groups of 6 or 7 can act out a "mini play" that retells the story. A drama activity gives children scope to explore alternative solutions or similar events. Children can use the character cards or character hats available on the website to portray each character.

Music video and song (available on Information Island www.hectorsworld.com)

The music video ("*Keep Yourself Switched On*") could be played to introduce the class to the music and lyrics. The song encourages young people to keep themselves up-to-date and build their skills. It includes ideas about virus symptoms and virus prevention. Song lyrics can be displayed using a data projector or printed for students to read. In groups, students can create movements and dance steps to the song.

Cascade the song to another class. The class could share the song in an assembly or teach it to another class. This could cascade i.e. the first class to learn the song teaches to the next, they each teach to a class and so on until the whole school knows the song and can sing it together.

Hector's World Learning Links

Cybersafety

Security, Virus, Anti-virus,

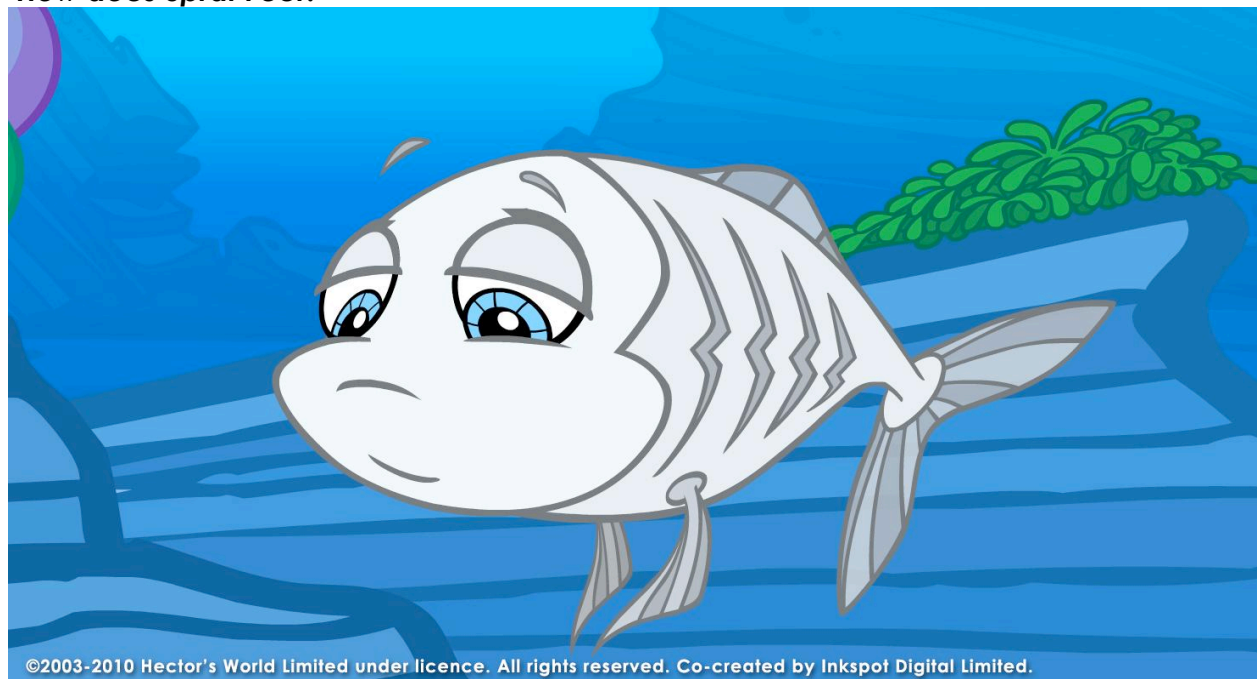
Digital Literacy

Information security

Image1: Pop-Up Window for use before viewing the episode.
This is Sprat the fish. He is using his computer when a pop-up window appears on the screen. Look for this scene in the episode and watch what happens next.







Image2: Sprat for use after Pause Point 1
How does Sprat Feel?



Student Activity 1 “What happened Next?”

Student groups work as a team to arrange all the pictures in the correct order to re-tell the story.
Cut the images out (removing image numbers)

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